



CASCADIA WINDOWS LTD.

CASCADIA CLIP® FIBERGLASS THERMAL SPACER

CSI Section:
07 77 70 Wall Specialties

1.0 RECOGNITION

Cascadia Clip® Fiberglass Thermal Spacers have been evaluated for use as cladding supports for use with exterior insulated walls. The thermal spacers have been evaluated for composition, durability, structural, and fire performance. The Cascadia Clip® Fiberglass Thermal Spacers evaluated in this report comply with or are satisfactory alternatives to the following codes and regulations:

- 2015 and 2012 International Building Code® (IBC)

2.0 LIMITATIONS

Use of the Cascadia Clip® Fiberglass Thermal Spacers recognized in this report are subject to the following:

- 2.1 Use of the spacers with proprietary exterior wall covering materials shall be approved by the proprietary exterior wall covering manufacturer.
- 2.2 Supporting structural substrate and vertical/horizontal girts shall be designed to support the design loads to the satisfaction of the authority having jurisdiction.

3.0 PRODUCT USE

3.1 General: Cascadia Clip® Fiberglass Thermal Spacers are cladding supports for use with exterior insulated walls. The Spacer functions as a shim between exterior cladding supports and the structural back-up wall. The Spacers also function as a fiberglass thermal break to assist in the energy performance of the wall system. The Spacers may be used in Types I, II, III, IV and V construction when installed in accordance with Section 3.3 of this report.

3.2 Design: The Cascadia Clip® Fiberglass Thermal Spacer is installed between the exterior wall cladding and structural substrate walls of steel framing, wood studs, concrete or concrete masonry. Supporting structural walls shall be designed to support the design loads. Allowable shear loads and compressive loads per spacer are shown in Table 1 of this report. Allowable wind loads (suction) are determined from recognized values for the screw fastener attached to the substrate and the cladding system's recognized load

capacity, whichever is lower. Spacing of the Cascadia Clip shall be determined by the engineering design. Typical spacings are 16-inches (406 mm) on-center horizontally and 26-inches (660 mm) on-center vertically.

Depth of Spacer and Color Code	Vertical Shear Load ³	Horizontal Shear Load ³	Compression Load
2" - Blue	282	66	6280
2½" - Grey	206	62	5250
3" - Purple	171	62	4220
3½" - Orange	132	53	3810
4" - Red	118	43	3260
5" - Yellow	106	31	3310
6" - Green	76	18	2670

SI: 1 lbf. = 4.448 N, 1 inch = 25.4 mm
¹ Two #14 self-drilling screws per Spacer.
² Minimum No. 20 gage steel studs
³ Direction of load.

3.3 Installation: The Cascadia Clip® Fiberglass Thermal Spacers shall be installed in accordance with the manufacturer's published installation instructions, this evaluation report and the applicable code. If there are any conflicts between the manufacturer's published installation instructions and this report, the more restrictive shall govern.

3.3.1 Installation General: The Cascadia Clip® Fiberglass Thermal Spacers are installed directly between structural back-up walls of steel framing, wood studs, concrete or concrete masonry and horizontal or vertical cladding support members using two #14 self-drilling screws passing through each spacer. Steel studs shall be minimum No. 20 gage [0.033-inch (0.84 mm) base metal thickness]. Spacers are installed with their fasteners aligned in a in the vertical orientation. The cladding support channels may span either vertically or horizontally. Figure No. 1 of this report provides typical installation details.

3.3.2 Installation with Vertical Type Clips: The spacers are attached by clipping the Vertical Type Clips' top retainer clip onto minimum No. 18 gage steel [0.043-inch (1.09 mm) base metal thickness] cladding support members, such as a z-girt or track, before being secured to the structure. The spacers are fastened in conjunction with the cladding support member using #14 self-drilling screws, which are inserted through factory provided holes in the spacer and the cladding support member, and connected directly to the structural substrate wall.

3.3.3 Installation with Horizontal Type Clips: When used with Horizontal Type Clips, horizontally oriented cladding support members, minimum No. 18 gage [0.043





inch (1.09 mm) base metal thickness] steel hat channels, are attached in conjunction with the flat topped Horizontal Type Clips that do not include the top retainer clip.

Attachment shall be by #14 self-drilling screws, which are inserted through factory provided holes in the Spacer and the hat channel, and connected directly to the structural substrate wall.

3.4 Type I, II, III, IV and V Construction: The Cascadia Clip® Fiberglass Thermal Spacers may be used in Types I, II, III, IV and V Construction when installed in accordance with this report. Spacers shall be covered their full depth with noncombustible 4 pcf (64 kg/m³) density mineral wool insulation. When used on exterior walls of noncombustible materials the spacers may be used on walls of any height. When used on exterior walls in Types I, II, III, or IV Construction with combustible cladding and/or combustible insulation, use of the spacers shall be limited to walls that are not greater than 40 feet (12 192 mm) in height above grade plane unless supported by test data complying with the acceptance criteria of NFPA 285.

3.4.1 NFPA 285 Complying Wall Assembly: The following wall assembly has been tested and complies with the acceptance criteria of NFPA 285:

- Interior finish of 5/8-inch (15.9 mm) thick Type X gypsum board;
- Steel framing of 35/8-inch (92.1 mm) No. 16 gage (0.054 inch) galvanized cold-formed steel;
- Exterior sheathing of 5/8-inch (15.9 mm) thick GP DensGlass exterior Type X gypsum board;
- Air/vapor barrier;
- Cascadia Clip® Spacers;
- Exterior insulation of 3½-inch (88.9 mm) thick mineral wool insulation;
- Exterior noncombustible cladding or;
- Exterior combustible cladding, provided a letter from the wall cladding manufacturer is submitted to and approved by the authority having jurisdiction approving the use of the Cascadia Clip® Fiberglass Thermal Spacers with their exterior cladding in the wall assembly in question.

3.5 Fire-resistance Rated Wall Assemblies: The Cascadia Clip® Fiberglass Thermal Spacers may be used on the exterior side of exterior wall assemblies that have a fire-resistance rating provided:

- The supporting substrate wall shall have the required fire-resistance rating; and
- The exterior cladding shall not contribute to nor detract from the fire-resistance of the substrate wall assembly; and

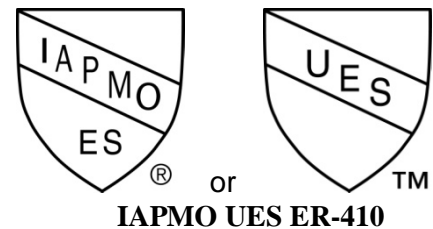
- Spacers shall be covered their full depth with noncombustible 4 pcf (64 kg/m³) density mineral wool insulation; and
- The mineral wool insulation or any other noncombustible insulation shall not contribute to nor detract from the fire-resistance of the substrate wall assembly.

4.0 PRODUCT DESCRIPTION

The Cascadia Clip® Fiberglass Thermal Spacers are manufactured primarily from glass fiber and polyester resin. The Spacers are color coded and manufactured in depths of 2-inch, 2½-inch, 3-inch, 3½-inch, 4-inch, 5-inch and 6-inch (50.8, 63.5, 76.2, 88.9, 102, 127 and 152 mm) and two styles; Horizontal Type Clips and Vertical Type Clips. Horizontal Type Clips have a flat outer surface for direct attachment of horizontal tracks. Vertical Type Clips have a guide and retainer clip that is used to increase the ease of installation to vertical girts. Figure 1 of this report provides typical profiles.

5.0 IDENTIFICATION

Cascadia Clip® Fiberglass Thermal Spacers are color coded according to depth and identified by the Cascadia Clip® name and trademark, product name, including “Fiberglass Thermal Spacer”, and evaluation report number (ER-410). The spacer identification may also include the IAPMO Uniform Evaluation Service Mark of Conformity. Either Mark of Conformity may be used as shown below:



6.0 SUBSTANTIATING DATA

6.1 Manufacturer’s descriptive literature and installation instructions. Test results are from laboratories in compliance with ISO/IEC 17025.

6.2 Reports of physical and mechanical property testing.

6.3 Report of Fire Propagation Characteristics testing and analysis in accordance with NFPA 285.

6.4 Report of testing for Surface Burning Characteristics in accordance with ASTM E84.



6.5 Report of testing for Determining Ignition Temperature of Plastics in accordance with ASTM D1929.

6.6 Report of Testing for Rate of Burning and Extent and Time of Burning of Plastics in accordance with ASTM D635.

7.0 CONTACT INFORMATION

Cascadia Windows Ltd.
#101 – 5350B 275 Street
Langley, BC, Canada V4W 0C1
(604) 857-4600
www.cascadiaclip.com

8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on Cascadia Clip® Fiberglass Thermal Spacers to assess their conformance to the codes shown in Section 1.0 of this report and documents the product's certification.

Brian Gerber, P.E., S.E.
Vice President, Technical Operations
Uniform Evaluation Service

Richard Beck, PE, CBO, MCP
Vice President, Uniform Evaluation Service

GP Russ Chaney
CEO, The IAPMO Group

For additional information about this evaluation report please visit
www.uniform-es.org or email at info@uniform-es.org

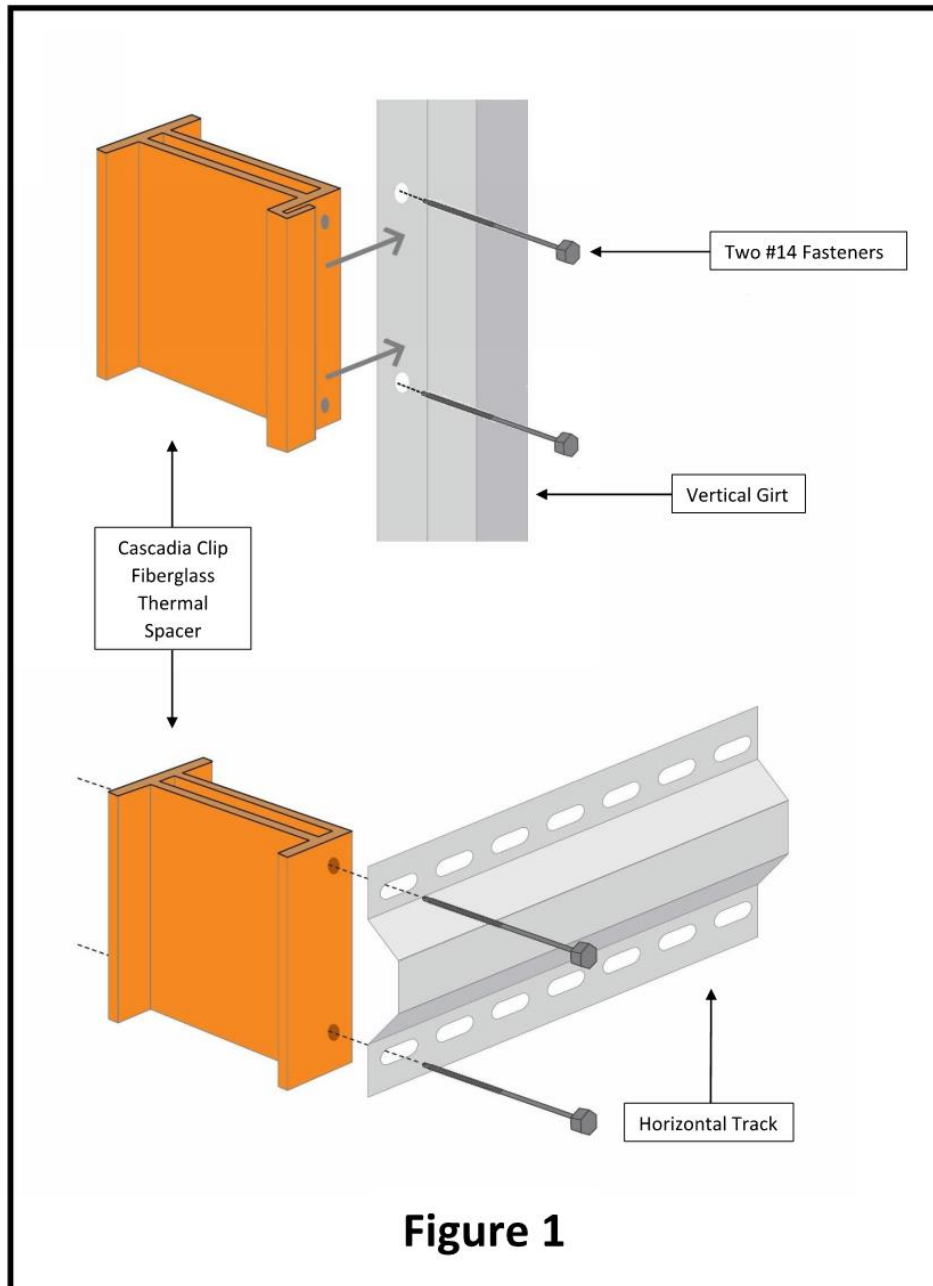


Figure 1. Cascadia Clip Typical Installation Details